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***
--U.S. Patents Fulltext (File 654) has been redesigned with
new search and display features. See HELP NEWS 654 for
information.
***
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(below) for individual file numbers.

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--CLAIMS/US Patents (Files 340,341, 942) have been enhanced
with both application and grant publication level in a
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NEW FILES RELEASED
***Dialog NewsRoom - Current 3-4 months (File 990)
***Dialog NewsRoom - 2001 Archive (File 994)
***Dialog NewsRoom - 2000 Archive (File 995)
***AGROProjects (File 235)
***TRADEMARKSCAN-Finland (File 679)
***TRADEMARKSCAN-Japan (File 669)
***TRADEMARKSCAN-Norway (File 678)
***TRADEMARKSCAN-Sweden (File 675)
***
UPDATING RESUMED
***Delphes European Business (File 481)
***
RELOADED
***U.S. Patents Fulltext 1976-current (File 654)
***Population Demographics (File 581)
***CLAIMS/US PATENTS (Files 340, 341, 942)
***Kompass Western Europe (590)

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***D&B - Dun's Market Identifiers  (516)

REMOVED
***U.S. Patents Fulltext 1980-1989 (File 653)
***Washington Post (File 146)
***Books in Print (File 470)
***Court Filings (File 793)
***Microcomputer Software Guide Online (File 278)
***Publishers, Distributors & Wholesalers of the U.S. (File 450)
***State Tax Today (File 791)
***Tax Notes Today (File 790)
***Worldwide Tax Daily (File 792)

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KWIC is set to 50.
HILIGHT set on as '*'
PICKS is set ON as an alias for 5,55,159,143,358,340,344,348,351,352,447,72,73,154,155,34
9.
*
SYSTEM:HOME
Cost is in DialUnits
Menu System II: D2 version 1.7.8 term=ASCII
                    *** DIALOG HOMEBASE(SM) Main Menu ***

 Information:
  1.  Announcements (new files, reloads, etc.)
  2.  Database, Rates, & Command Descriptions
  3.  Help in Choosing Databases for Your Topic
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(e.g., B1 for ERIC).
?b pick

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?b picks
>>>         351 is unauthorized
>>>         352 is unauthorized
>>>2 of the specified files are not available
       16apr02 12:42:29 User243038 Session D96.1
            $0.00    0.309 DialUnits FileHomeBase
     $0.00  Estimated cost FileHomeBase
     $0.04  TELNET
     $0.04  Estimated cost this search
```

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      $0.04  Estimated total session cost   0.309 DialUnits


SYSTEM:OS  - DIALOG OneSearch
  File   5:Biosis Previews(R)  1969-2002/Apr W1
         (c) 2002 BIOSIS
  File  55:Biosis Previews(R)  1993-2002/Apr W1
         (c) 2002 BIOSIS
  File 159:Cancerlit  1975-2002/Mar
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*File 159: For UDs information please see Help News159.
  File 143:Biol. & Agric. Index  1983-2002/Mar
         (c) 2002 The HW Wilson Co
  File 358:Current BioTech Abs  1983-2001/Oct
         (c) 2001 DECHEMA
*File 358: Updates delayed. Please see HELP NEWS 358 for details.
  File 340:CLAIMS(R)/US Patent  1950-02/Apr 04
         (c) 2002 IFI/CLAIMS(R)
*File 340: Both the application and grant publication levels for a
patent are in a single record.  See HELP NEWS 340 for details.
  File 344:CHINESE PATENTS ABS  APR 1985-2002/MAR
         (c) 2002 EUROPEAN PATENT OFFICE
  File 348:EUROPEAN PATENTS  1978-2002/APR W01
         (c) 2002 European Patent Office
  File 447:IMSWorld Patents International  2002/Mar
         (c) 2002 IMSWorld Publ. Ltd.
  File  72:EMBASE  1993-2002/Apr W1
         (c) 2002 Elsevier Science B.V.
*File  72: For information about Explode feature please
see Help News72.
  File  73:EMBASE  1974-2002/Apr W1
         (c) 2002 Elsevier Science B.V.
*File  73: For information about Explode feature please
see Help News73.
  File 154:MEDLINE(R)  1990-2002/Apr W1
  File 155:MEDLINE(R)  1966-2002/Apr W1
  File 349:PCT FULLTEXT  1983-2002/UB=20020411,UT=20020404
         (c) 2002 WIPO/Univentio

      Set  Items  Description
      ---  -----  -----------
?s collagen
      S1  390127  COLLAGEN
?s collagen?
      S2  462795  COLLAGEN?
?s type I and s2
           1534  TYPE I
         462795  S2
      S3     262  TYPE I AND S2
?s type I collagen
      S4    2800  TYPE I COLLAGEN
?s s4 and inhibit? angiogenesis
           2800  S4
              4  INHIBIT? ANGIOGENESIS
      S5       0  S4 AND INHIBIT? ANGIOGENESIS
?s s4 and angiogenesis
           2800  S4
          97768  ANGIOGENESIS
      S6      40  S4 AND ANGIOGENESIS
?s s6 and inhibit?
Processing
Processed  10 of  14 files ...
Completed processing all files
             40  S6
        4897395  INHIBIT?
      S7      10  S6 AND INHIBIT?
?s s7 and antibod?
             10  S7
        2551850  ANTIBOD?
```

S8 2 S7 AND ANTIBOD?
?rd
>>>Duplicate detection is not supported for File 340.
>>>Duplicate detection is not supported for File 344.
>>>Duplicate detection is not supported for File 348.
>>>Duplicate detection is not supported for File 447.
>>>Duplicate detection is not supported for File 349.

>>>Records from unsupported files will be retained in the RD set.
...completed examining records
S9 1 RD (unique items)
?t s9/5/all

9/5/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10530456 BIOSIS NO.: 199699151601
Involvement of the transcription factor NF-kappa-B in tubular morphogenesis of human microvascular endothelial cells by oxidative stress.
AUTHOR: Shono Tadahisa; Ono Mayumi; Izumi Hiroto; Jimi Sei-Ichiro; Matsushima Kouji; Okamoto Takashi; Kohno Kimitoshi; Kuwano Michihiko(a)
AUTHOR ADDRESS: (a)Dep. Biochemistry, Kyushu Univ. Sch. Med., Maidashi, Fukuoka 812-82**Japan
JOURNAL: Molecular and Cellular Biology 16 (8):p4231-4239 1996
ISSN: 0270-7306
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Oxygen radicals are induced under various pathologic conditions associated with neovascularization. Oxygen radicals modulate *angiogenesis* in cultured human microvascular endothelial cells by an unknown mechanism. Treatment of human microvascular endothelial cells for 15 min with 0.1 to 0.5 mM hydrogen peroxide (H-2O-2) or 100 U of tumor necrosis factor alpha per ml induced tubular morphogenesis in type I collagen gels. Gel shift assays with nuclear extracts demonstrated that H-2O-2 increases the binding activities of two transcription factors, NF-kappa-B and AP-1, but not of Sp1. Tumor necrosis factor alpha increased the binding activities of all three factors. A supershift assay with specific *antibodies* against JunB, JunD, and c-jun (Jun family) showed that the *antibody* against c-jun supershifted the AP-1 complex after H-2O-2 treatment. Coadministration of the antisense sequence of NF-KB *inhibited* H-2O-2-dependent tubular morphogenesis, and the antisense c-Jun oligonucleotide caused partial *inhibition*. The angiogenic factor responsible for H-2O-2-induced tubular morphogenesis was examined. Cellular mRNA levels of vascular endothelial growth factor and interleukin-8 (IL-8), but not those of transforming growth factor et, were increased after treatment with 0.5 mM H-2O-2. Coadministration of anti-IL-8 *antibody* *inhibited* tubular morphogenesis enhanced by H-2O-2, and IL-8 itself also enhanced the formation of tube-like structures. Treatment with antisense NF-KB oligonucleotide completely blocked H-2O-2-dependent IL-8 production by endothelial cells. The tubular morphogenesis of vascular endothelial cells after treatment with oxidative stimuli and its possible association with NF-kappa-B and IL-8, is examined.

REGISTRY NUMBERS: 7722-84-1: HYDROGEN PEROXIDE
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Cardiovascular System (Transport and Circulation); Development; Endocrine System (Chemical Coordination and Homeostasis); Genetics; Molecular Genetics (Biochemistry and Molecular Biophysics)
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: Hominidae (Hominidae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; humans; mammals; primates; vertebrates

CHEMICALS & BIOCHEMICALS: HYDROGEN PEROXIDE
MISCELLANEOUS TERMS: HYDROGEN PEROXIDE; INTERLEUKIN-8; MESSENGER RNA; NEOVASCULARIZATION; TUMOR NECROSIS FACTOR-ALPHA; *TYPE I COLLAGEN*; VASCULAR ENDOTHELIAL GROWTH FACTOR
CONCEPT CODES:
03508 Genetics and Cytogenetics-Human
10012 Biochemistry-Gases (1970-)
10300 Replication, Transcription, Translation
14504 Cardiovascular System-Physiology and Biochemistry
15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and Reticuloendothelial System
17002 Endocrine System-General
25508 Developmental Biology-Embryology-Morphogenesis, General
02508 Cytology and Cytochemistry-Human
10060 Biochemical Studies-General
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10506 Biophysics-Molecular Properties and Macromolecules
BIOSYSTEMATIC CODES:
86215 Hominidae
?ds

Set	Items	Description
S1	390127	COLLAGEN
S2	462795	COLLAGEN?
S3	262	TYPE I AND S2
S4	2800	TYPE I COLLAGEN
S5	0	S4 AND INHIBIT? ANGIOGENESIS
S6	40	S4 AND ANGIOGENESIS
S7	10	S6 AND INHIBIT?
S8	2	S7 AND ANTIBOD?
S9	1	RD (unique items)

?t s7/5/all

7/5/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12259159 BIOSIS NO.: 200000012661
***Inhibition* by vasoactive intestinal polypeptide (VIP) of *angiogenesis* induced by murine Colon 26-L5 carcinoma cells metastasized in liver.**
AUTHOR: Ogasawara Masaru; Murata Jun(a); Kamitani Yukio; Hayashi Kazuko; Saiki Ikuo
AUTHOR ADDRESS: (a)Department of Pathogenic Biochemistry, Institute of Natural Medicine, Toyama Medical and Pharmaceutical University, 2630 Sugitani, Toyama, 930-0194**Japan
JOURNAL: Clinical & Experimental Metastasis 17 (4):p283-291 June, 1999
ISSN: 0262-0898
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: We investigated the effect of VIP on the liver metastases and *angiogenesis* by Colon 26-L5 carcinoma cells in mice. Daily systemic administration of VIP, beginning 3 days after tumor inoculation into a portal vein of mice, *inhibited* significantly the development of their liver metastases. Immunohistochemical staining for factor VIII-related antigen in the sections of liver metastases showed that the systemic administration of VIP caused significant prevention of *angiogenesis* within tumor masses. VIP (10-10 to 10-6 M) *inhibited* the invasion of reconstituted basement membrane (Matrigel) by hepatic sinusoidal endothelial (HSE) cells in a concentration-dependent manner in a Transwell chamber assay in vitro and achieved approximately 50% reduction of control at 10-6 M. VIP (10-6 M) also significantly suppressed the haptotactic migration of HSE cells to fibronectin, laminin or type I collagen substrates with a similar *inhibition* rate to the invasion assay. Exposure of VIP to HSE cell s induced accumulation of intracellular cAMP in a concentration-dependent manner. The *inhibitory*

effect of VIP (10-6 M) on HSE cell migration was significantly abrogated in the presence of 3 X 10-6 M H-89, a cAMP-dependent protein kinase *inhibitor*. VIP (10-6 M) *inhibited* the morphogenesis of HSE cells into capillary-like structures on Matrigel-coated wells. VIP did not affect the proliferation of HSE cells and the production of gelatinases in HSE cells in vitro at the concentrations used in the invasion assay. These observations suggest that the anti-metastatic effect of VIP on liver metastases by Colon 26-L5 carcinoma cells in mice is partly due to the prevention of tumor *angiogenesis* probably through suppression of the motility of endothelial cells.

REGISTRY NUMBERS: 60-92-4: CYCLIC AMP; 9040-48-6: GELATINASE; 37221-79-7: VASOACTIVE INTESTINAL POLYPEPTIDE
DESCRIPTORS:
MAJOR CONCEPTS: Digestive System (Ingestion and Assimilation); Tumor Biology
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: Balb/c mouse (Muridae)--animal model; colon 26-L5 cell line (Muridae)--carcinoma cells
ORGANISMS: PARTS ETC: hepatic sinusoidal endothelial cells--digestive system, haptotactic migration, morphogenesis, proliferation, tube formation
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Rodents; Vertebrates
DISEASES: colon cancer--digestive system disease, neoplastic disease; liver metastasis--digestive system disease, histopathology, neoplastic disease
CHEMICALS & BIOCHEMICALS: cAMP {cyclic AMP}--concentration-dependent intracellular accumulation; fibronectin; gelatinase; laminin; *type I collagen*; vasoactive intestinal polypeptide--anti-angiogenic effect, anti-metastatic effect
METHODS & EQUIPMENT: immunohistochemistry--histochemical method
MISCELLANEOUS TERMS: tumor *angiogenesis*--*inhibition*
ALTERNATE INDEXING: Colonic Neoplasms (MeSH); Liver Neoplasms (MeSH)
CONCEPT CODES:
24002 Neoplasms and Neoplastic Agents-General
14001 Digestive System-General; Methods
BIOSYSTEMATIC CODES:
86375 Muridae

7/5/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11974220 BIOSIS NO.: 199900227533
Signaling via fibroblast growth factor receptor-1 is dependent on extracellular matrix in capillary endothelial cell differentiation.
AUTHOR: Kanda Shigeru; Tomasini-Johansson Bianca; Klint Peter; Dixelius Johan; Rubin Kristofer; Claesson-Welsh Lena(a)
AUTHOR ADDRESS: (a)Department of Medical Biochemistry and Microbiology, Biomedical Center, S-751 23, Uppsala**Sweden
JOURNAL: Experimental Cell Research 248 (1):p203-213 April 10, 1999
ISSN: 0014-4827
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: Differentiation of endothelial cells, i.e., formation of a vessel lumen, is a prerequisite for *angiogenesis*. The underlying molecular mechanisms are ill defined. We have studied a brain capillary endothelial cell line (IBEC) established from H-2Kb-tsA58 transgenic mice. These cells form hollow tubes in three-dimensional type I collagen gels in response to fibroblast growth factor-2 (FGF-2). Culture of IBEC on collagen gels in the presence of FGF-2 protected cells from apoptosis and allowed tube formation (i.e., differentiation) but not growth of the cells. FGF-induced differentiation, but not cell survival, was

inhibited by treatment of the cells with an anti-beta1-integrin IgG. Changes in integrin expression in the collagen-gel cultures could not be detected. Rather, cell-matrix interactions critical for endothelial cell differentiation were created during the culture, as indicated by the gradual increase in tyrosine phosphorylation of focal adhesion kinase in the collagen-gel cultures. Inclusion of laminin in the collagen gels led to FGF-2-independent formation of tube structures, but cells were not protected from apoptosis. These data indicate that FGF receptor-1 signal transduction in this cell model results in cell survival. Through mechanisms dependent on cell-matrix interactions, possibly involving the alpha3beta1-integrin and laminin produced by the collagen-cultured IBE cells, FGF stimulation also leads to differentiation of the cells.

REGISTRY NUMBERS: 60-18-4Q: TYROSINE; 556-03-6Q: TYROSINE; 9031-44-1: KINASE
DESCRIPTORS:
MAJOR CONCEPTS: Cardiovascular System (Transport and Circulation); Cell Biology
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: IBEC cell line (Muridae)--brain capillary endothelial cell
ORGANISMS: PARTS ETC: capillary endothelial cell--circulatory system, differentiation
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: extracellular matrix; fibroblast growth factor receptor-1; fibroblast growth factor-2; focal adhesion kinase --tyrosine phosphorylation; *type I collagen*; tyrosine
MISCELLANEOUS TERMS: *angiogenesis*; signal transduction
CONCEPT CODES:
02506 Cytology and Cytochemistry-Animal
10060 Biochemical Studies-General
10802 Enzymes-General and Comparative Studies; Coenzymes
14501 Cardiovascular System-General; Methods
17002 Endocrine System-General
20501 Nervous System-General; Methods
BIOSYSTEMATIC CODES:
86375 Muridae

7/5/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11486517 BIOSIS NO.: 199800267849
***Inhibition* of *angiogenesis* on glycated collagen lattices.**
AUTHOR: Kuzuya M(a); Satake S; Ai S; Asai T; Kanda S; Ramos M A; Miura H; Ueda M; Iguchi A
AUTHOR ADDRESS: (a)Dep. Geriatr., Nagoya Univ. Sch. Med., 65 Tsuruma-cho, Showa-ku, Nagoya 466-8550**Japan
JOURNAL: Diabetologia 41 (5):p491-499 May, 1998
ISSN: 0012-186X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Advanced glycation endproduct (AGE) accumulation in extracellular matrix proteins has been demonstrated in diabetic patients with a significant correlation with the severity of diabetic complications. AGE accumulation induces matrix protein cross-link formation, resulting in an increased stiffness of matrix fibres and the reduction of the susceptibility of matrix proteins to proteolytic degradation. We examined whether glycation-induced collagen cross-linking may affect vascular endothelial cell behaviours such as invasion, proliferation and differentiation, using the in vitro *angiogenesis* model of capillary-like structure formation in three-dimensional matrices of collagen type I. Endothelial cells cultured on collagen gel with angiogenic factors (the combination of fibroblast growth factor-2 and vascular endothelial growth factor) invaded the underlying collagen

matrix, and organized capillary-like cord structures in the gel. We found that endothelial cell invasion into glycated collagen gel was significantly attenuated without any effect on proteinase activity including cell-associated plasminogen activator and matrix metalloproteinase in the conditioned medium. In addition, subsequent capillary-like cord formation was also *inhibited* in glycated collagen gel. In contrast, endothelial cell proliferation was enhanced on glycated collagen gel with or without angiogenic factors compared with control collagen gel. These results suggest that the structural alterations of extracellular matrix proteins through the glycation-induced cross-link formation affect the interaction between endothelial cell and extracellular matrix, resulting in the impairment of an adequate neovascularization in diabetic patients.

DESCRIPTORS:
MAJOR CONCEPTS: Cardiovascular System (Transport and Circulation)
BIOSYSTEMATIC NAMES: Bovidae--Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: bovine (Bovidae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Artiodactyls; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates
DISEASES: diabetes--endocrine disease/pancreas, metabolic disease; vascular endothelial cells
CHEMICALS & BIOCHEMICALS: advanced glycation endproduct; extracellular matrix proteins; glycated collagen gel--tissue culture substrate; *type I collagen*--three-dimensional lattices
MISCELLANEOUS TERMS: *angiogenesis*; capillary-like structures; collagen-cross linking; neovascularization
CONCEPT CODES:
14501 Cardiovascular System-General; Methods
02506 Cytology and Cytochemistry-Animal
10060 Biochemical Studies-General
13020 Metabolism-Metabolic Disorders
17002 Endocrine System-General
BIOSYSTEMATIC CODES:
85715 Bovidae

7/5/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11350953 BIOSIS NO.: 199800132285
Three-dimensional type I collagen lattices induce coordinate expression of matrix metalloproteinases MT1-MMP and MMP-2 in microvascular endothelial cells.
AUTHOR: Haas Tara L; Davis Sandra J; Madri Joseph A(a)
AUTHOR ADDRESS: (a)Dep. Pathol., LH115, 310 Cedar St., New Haven, CT 06510 **USA
JOURNAL: Journal of Biological Chemistry 273 (6):p3604-3610 Feb. 6, 1998
ISSN: 0021-9258
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Matrix metalloproteinases (MMPs) are hypothesized to play a key role in the processes of endothelial cell migration and matrix remodeling during *angiogenesis*. We utilized an in vitro model of microvascular endothelial cell *angiogenesis*, cells cultured within a collagen matrix, to investigate the MMP profile of endothelial cells undergoing *angiogenesis*. We demonstrated by gelatin zymography that monolayer cultures (two-dimensional) of endothelial cells constitutively expressed low levels of latent MMP-2, but that culture in a three-dimensional collagen matrix increased the total amount of MMP-2 mRNA and protein. Furthermore, 51% of total MMP-2 protein was activated in the three-dimensional culture lysates, compared with 3.5% in two-dimensional culture. The mRNA and protein of MT1-MMP, the putative activator of MMP-2, were up-regulated in endothelial cells cultured in three-dimensional as compared with two-dimensional culture. Treatment of

cultures with MMP *inhibitors* blocked activation of MMP-2 and *inhibited* formation of endothelial cell networks within the collagen gel. Induction of MT1-MMP and MMP-2 appeared to be specific to collagen, inasmuch as culture of the endothelial cells on top of or within, a Matrigel matrix neither increased total MMP-2 nor increased activation of MMP-2. These results suggest that MT1-MMP activation of NMP-2 occurs in endothelial cells undergoing *angiogenesis*, that this activation has a functional role in endothelial cell organization, and that specific matrix interactions may be critical for the increased expression of MT1-MMP and MMP-2.

REGISTRY NUMBERS: 81669-70-7: METALLOPROTEINASE
DESCRIPTORS:
MAJOR CONCEPTS: Cardiovascular System (Transport and Circulation); Cell Biology; Enzymology (Biochemistry and Molecular Biophysics)
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: rat (Muridae)
ORGANISMS: PARTS ETC: microvascular endothelial cell--circulatory system
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: matrix metalloproteinase-2 gene--expression; matrix metalloproteinase-2--activation; membrane-type 1 matrix metalloproteinase gene--expression; membrane-type 1 matrix metalloproteinase--induction; *type I collagen*
MISCELLANEOUS TERMS: *angiogenesis*; three-dimensional type I collagen lattice
CONCEPT CODES:
02506 Cytology and Cytochemistry-Animal
03506 Genetics and Cytogenetics-Animal
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10808 Enzymes-Physiological Studies
14504 Cardiovascular System-Physiology and Biochemistry
BIOSYSTEMATIC CODES:
86375 Muridae

7/5/5 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10530456 BIOSIS NO.: 199699151601
Involvement of the transcription factor NF-kappa-B in tubular morphogenesis of human microvascular endothelial cells by oxidative stress.
AUTHOR: Shono Tadahisa; Ono Mayumi; Izumi Hiroto; Jimi Sei-Ichiro; Matsushima Kouji; Okamoto Takashi; Kohno Kimitoshi; Kuwano Michihiko(a)
AUTHOR ADDRESS: (a)Dep. Biochemistry, Kyushu Univ. Sch. Med., Maidashi, Fukuoka 812-82**Japan
JOURNAL: Molecular and Cellular Biology 16 (8):p4231-4239 1996
ISSN: 0270-7306
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Oxygen radicals are induced under various pathologic conditions associated with neovascularization. Oxygen radicals modulate *angiogenesis* in cultured human microvascular endothelial cells by an unknown mechanism. Treatment of human microvascular endothelial cells for 15 min with 0.1 to 0.5 mM hydrogen peroxide (H-2O-2) or 100 U of tumor necrosis factor alpha per ml induced tubular morphogenesis in type I collagen gels. Gel shift assays with nuclear extracts demonstrated that H-2O-2 increases the binding activities of two transcription factors, NF-kappa-B and AP-1, but not of Sp1. Tumor necrosis factor alpha increased the binding activities of all three factors. A supershift assay with specific antibodies against JunB, JunD, and c-jun (Jun family) showed that the antibody against c-jun supershifted the AP-1 complex after H-2O-2 treatment. Coadministration of the antisense sequence of NF-KB *inhibited* H-2O-2-dependent tubular morphogenesis, and the

antisense c-Jun oligonucleotide caused partial *inhibition*. The angiogenic factor responsible for H-20-2-induced tubular morphogenesis was examined. Cellular mRNA levels of vascular endothelial growth factor and interleukin-8 (IL-8), but not those of transforming growth factor et, were increased after treatment with 0.5 mM H-20-2. Coadministration of anti-IL-8 antibody *inhibited* tubular morphogenesis enhanced by H-20-2, and IL-8 itself also enhanced the formation of tube-like structures. Treatment with antisense NF-KB oligonucleotide completely blocked H-20-2-dependent IL-8 production by endothelial cells. The tubular morphogenesis of vascular endothelial cells after treatment with oxidative stimuli and its possible association with NF-kappa-B and IL-8, is examined.

REGISTRY NUMBERS: 7722-84-1: HYDROGEN PEROXIDE
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Cardiovascular System (Transport and Circulation); Development; Endocrine System (Chemical Coordination and Homeostasis); Genetics; Molecular Genetics (Biochemistry and Molecular Biophysics)
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: Hominidae (Hominidae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; humans; mammals; primates; vertebrates
CHEMICALS & BIOCHEMICALS: HYDROGEN PEROXIDE
MISCELLANEOUS TERMS: HYDROGEN PEROXIDE; INTERLEUKIN-8; MESSENGER RNA; NEOVASCULARIZATION; TUMOR NECROSIS FACTOR-ALPHA; *TYPE I COLLAGEN*; VASCULAR ENDOTHELIAL GROWTH FACTOR
CONCEPT CODES:
03508 Genetics and Cytogenetics-Human
10012 Biochemistry-Gases (1970-)
10300 Replication, Transcription, Translation
14504 Cardiovascular System-Physiology and Biochemistry
15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and Reticuloendothelial System
17002 Endocrine System-General
25508 Developmental Biology-Embryology-Morphogenesis, General
02508 Cytology and Cytochemistry-Human
10060 Biochemical Studies-General
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10506 Biophysics-Molecular Properties and Macromolecules
BIOSYSTEMATIC CODES:
86215 Hominidae

7/5/6 (Item 1 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)

12259159 BIOSIS NO.: 200000012661
***Inhibition* by vasoactive intestinal polypeptide (VIP) of *angiogenesis* induced by murine Colon 26-L5 carcinoma cells metastasized in liver.**
AUTHOR: Ogasawara Masaru; Murata Jun(a); Kamitani Yukio; Hayashi Kazuko; Saiki Ikuo
AUTHOR ADDRESS: (a)Department of Pathogenic Biochemistry, Institute of Natural Medicine, Toyama Medical and Pharmaceutical University, 2630 Sugitani, Toyama, 930-0194**Japan
JOURNAL: Clinical & Experimental Metastasis 17 (4):p283-291 June, 1999
ISSN: 0262-0898
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: We investigated the effect of VIP on the liver metastases and *angiogenesis* by Colon 26-L5 carcinoma cells in mice. Daily systemic administration of VIP, beginning 3 days after tumor inoculation into a

portal vein of mice, *inhibited* significantly the development of their liver metastases. Immunohistochemical staining for factor VIII-related antigen in the sections of liver metastases showed that the systemic administration of VIP caused significant prevention of *angiogenesis* within tumor masses. VIP (10-10 to 10-6 M) *inhibited* the invasion of reconstituted basement membrane (Matrigel) by hepatic sinusoidal endothelial (HSE) cells in a concentration-dependent manner in a Transwell chamber assay in vitro and achieved approximately 50% reduction of control at 10-6 M. VIP (10-6 M) also significantly suppressed the haptotactic migration of HSE cells to fibronectin, laminin or type I collagen substrates with a similar *inhibition* rate to the invasion assay. Exposure of VIP to HSE cell s induced accumulation of intracellular cAMP in a concentration-dependent manner. The *inhibitory* effect of VIP (10-6 M) on HSE cell migration was significantly abrogated in the presence of 3 X 10-6 M H-89, a cAMP-dependent protein kinase *inhibitor*. VIP (10-6 M) *inhibited* the morphogenesis of HSE cells into capillary-like structures on Matrigel-coated wells. VIP did not affect the proliferation of HSE cells and the production of gelatinases in HSE cells in vitro at the concentrations used in the invasion assay. These observations suggest that the anti-metastatic effect of VIP on liver metastases by Colon 26-L5 carcinoma cells in mice is partly due to the prevention of tumor *angiogenesis* probably through suppression of the motility of endothelial cells.

REGISTRY NUMBERS: 60-92-4: CYCLIC AMP; 9040-48-6: GELATINASE; 37221-79-7: VASOACTIVE INTESTINAL POLYPEPTIDE
DESCRIPTORS:
MAJOR CONCEPTS: Digestive System (Ingestion and Assimilation); Tumor Biology
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: Balb/c mouse (Muridae)--animal model; colon 26-L5 cell line (Muridae)--carcinoma cells
ORGANISMS: PARTS ETC: hepatic sinusoidal endothelial cells--digestive system, haptotactic migration, morphogenesis, proliferation, tube formation
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Rodents; Vertebrates
DISEASES: colon cancer--digestive system disease, neoplastic disease; liver metastasis--digestive system disease, histopathology, neoplastic disease
CHEMICALS & BIOCHEMICALS: cAMP {cyclic AMP}--concentration-dependent intracellular accumulation; fibronectin; gelatinase; laminin; *type I collagen*; vasoactive intestinal polypeptide--anti-angiogenic effect, anti-metastatic effect
METHODS & EQUIPMENT: immunohistochemistry--histochemical method
MISCELLANEOUS TERMS: tumor *angiogenesis*--*inhibition*
ALTERNATE INDEXING: Colonic Neoplasms (MeSH); Liver Neoplasms (MeSH)
CONCEPT CODES:
24002 Neoplasms and Neoplastic Agents-General
14001 Digestive System-General; Methods
BIOSYSTEMATIC CODES:
86375 Muridae

7/5/7 (Item 2 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)

11974220 BIOSIS NO.: 199900227533
Signaling via fibroblast growth factor receptor-1 is dependent on extracellular matrix in capillary endothelial cell differentiation.
AUTHOR: Kanda Shigeru; Tomasini-Johansson Bianca; Klint Peter; Dixelius Johan; Rubin Kristofer; Claesson-Welsh Lena(a)
AUTHOR ADDRESS: (a)Department of Medical Biochemistry and Microbiology, Biomedical Center, S-751 23, Uppsala**Sweden
JOURNAL: Experimental Cell Research 248 (1):p203-213 April 10, 1999
ISSN: 0014-4827
DOCUMENT TYPE: Article

RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: Differentiation of endothelial cells, i.e., formation of a vessel lumen, is a prerequisite for *angiogenesis*. The underlying molecular mechanisms are ill defined. We have studied a brain capillary endothelial cell line (IBEC) established from H-2Kb-tsA58 transgenic mice. These cells form hollow tubes in three-dimensional type I collagen gels in response to fibroblast growth factor-2 (FGF-2). Culture of IBEC on collagen gels in the presence of FGF-2 protected cells from apoptosis and allowed tube formation (i.e., differentiation) but not growth of the cells. FGF-induced differentiation, but not cell survival, was *inhibited* by treatment of the cells with an anti-beta1-integrin IgG. Changes in integrin expression in the collagen-gel cultures could not be detected. Rather, cell-matrix interactions critical for endothelial cell differentiation were created during the culture, as indicated by the gradual increase in tyrosine phosphorylation of focal adhesion kinase in the collagen-gel cultures. Inclusion of laminin in the collagen gels led to FGF-2-independent formation of tube structures, but cells were not protected from apoptosis. These data indicate that FGF receptor-1 signal transduction in this cell model results in cell survival. Through mechanisms dependent on cell-matrix interactions, possibly involving the alpha3beta1-integrin and laminin produced by the collagen-cultured IBE cells, FGF stimulation also leads to differentiation of the cells.

REGISTRY NUMBERS: 60-18-4Q: TYROSINE; 556-03-6Q: TYROSINE; 9031-44-1: KINASE
DESCRIPTORS:
MAJOR CONCEPTS: Cardiovascular System (Transport and Circulation); Cell Biology
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: IBEC cell line (Muridae)--brain capillary endothelial cell
ORGANISMS: PARTS ETC: capillary endothelial cell--circulatory system, differentiation
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: extracellular matrix; fibroblast growth factor receptor-1; fibroblast growth factor-2; focal adhesion kinase --tyrosine phosphorylation; *type I collagen*; tyrosine
MISCELLANEOUS TERMS: *angiogenesis*; signal transduction
CONCEPT CODES:
02506 Cytology and Cytochemistry-Animal
10060 Biochemical Studies-General
10802 Enzymes-General and Comparative Studies; Coenzymes
14501 Cardiovascular System-General; Methods
17002 Endocrine System-General
20501 Nervous System-General; Methods
BIOSYSTEMATIC CODES:
86375 Muridae

7/5/8 (Item 3 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)

11486517 BIOSIS NO.: 199800267849
***Inhibition* of *angiogenesis* on glycated collagen lattices.**
AUTHOR: Kuzuya M(a); Satake S; Ai S; Asai T; Kanda S; Ramos M A; Miura H; Ueda M; Iguchi A
AUTHOR ADDRESS: (a)Dep. Geriatr., Nagoya Univ. Sch. Med., 65 Tsuruma-cho, Showa-ku, Nagoya 466-8550**Japan
JOURNAL: Diabetologia 41 (5):p491-499 May, 1998
ISSN: 0012-186X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Advanced glycation endproduct (AGE) accumulation in extracellular matrix proteins has been demonstrated in diabetic patients with a significant correlation with the severity of diabetic complications. AGE accumulation induces matrix protein cross-link formation, resulting in an increased stiffness of matrix fibres and the reduction of the susceptibility of matrix proteins to proteolytic degradation. We examined whether glycation-induced collagen cross-linking may affect vascular endothelial cell behaviours such as invasion, proliferation and differentiation, using the in vitro *angiogenesis* model of capillary-like structure formation in three-dimensional matrices of collagen type I. Endothelial cells cultured on collagen gel with angiogenic factors (the combination of fibroblast growth factor-2 and vascular endothelial growth factor) invaded the underlying collagen matrix, and organized capillary-like cord structures in the gel. We found that endothelial cell invasion into glycated collagen gel was significantly attenuated without any effect on proteinase activity including cell-associated plasminogen activator and matrix metalloproteinase in the conditioned medium. In addition, subsequent capillary-like cord formation was also *inhibited* in glycated collagen gel. In contrast, endothelial cell proliferation was enhanced on glycated collagen gel with or without angiogenic factors compared with control collagen gel. These results suggest that the structural alterations of extracellular matrix proteins through the glycation-induced cross-link formation affect the interaction between endothelial cell and extracellular matrix, resulting in the impairment of an adequate neovascularization in diabetic patients.

DESCRIPTORS:
MAJOR CONCEPTS: Cardiovascular System (Transport and Circulation)
BIOSYSTEMATIC NAMES: Bovidae--Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: bovine (Bovidae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Artiodactyls; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates
DISEASES: diabetes--endocrine disease/pancreas, metabolic disease; vascular endothelial cells
CHEMICALS & BIOCHEMICALS: advanced glycation endproduct; extracellular matrix proteins; glycated collagen gel--tissue culture substrate; *type I collagen*--three-dimensional lattices
MISCELLANEOUS TERMS: *angiogenesis*; capillary-like structures; collagen-cross linking; neovascularization
CONCEPT CODES:
14501 Cardiovascular System-General; Methods
02506 Cytology and Cytochemistry-Animal
10060 Biochemical Studies-General
13020 Metabolism-Metabolic Disorders
17002 Endocrine System-General
BIOSYSTEMATIC CODES:
85715 Bovidae

7/5/9 (Item 4 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)

11350953 BIOSIS NO.: 199800132285
Three-dimensional type I collagen lattices induce coordinate expression of matrix metalloproteinases MT1-MMP and MMP-2 in microvascular endothelial cells.
AUTHOR: Haas Tara L; Davis Sandra J; Madri Joseph A(a)
AUTHOR ADDRESS: (a)Dep. Pathol., LH115, 310 Cedar St., New Haven, CT 06510 **USA
JOURNAL: Journal of Biological Chemistry 273 (6):p3604-3610 Feb. 6, 1998
ISSN: 0021-9258
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Matrix metalloproteinases (MMPs) are hypothesized to play a key

role in the processes of endothelial cell migration and matrix remodeling during *angiogenesis*. We utilized an in vitro model of microvascular endothelial cell *angiogenesis*, cells cultured within a collagen matrix, to investigate the MMP profile of endothelial cells undergoing *angiogenesis*. We demonstrated by gelatin zymography that monolayer cultures (two-dimensional) of endothelial cells constitutively expressed low levels of latent MMP-2, but that culture in a three-dimensional collagen matrix increased the total amount of MMP-2 mRNA and protein. Furthermore, 51% of total MMP-2 protein was activated in the three-dimensional culture lysates, compared with 3.5% in two-dimensional culture. The mRNA and protein of MT1-MMP, the putative activator of MMP-2, were up-regulated in endothelial cells cultured in three-dimensional as compared with two-dimensional culture. Treatment of cultures with MMP *inhibitors* blocked activation of MMP-2 and *inhibited* formation of endothelial cell networks within the collagen gel. Induction of MT1-MMP and MMP-2 appeared to be specific to collagen, inasmuch as culture of the endothelial cells on top of or within, a Matrigel matrix neither increased total MMP-2 nor increased activation of MMP-2. These results suggest that MT1-MMP activation of NMP-2 occurs in endothelial cells undergoing *angiogenesis*, that this activation has a functional role in endothelial cell organization, and that specific matrix interactions may be critical for the increased expression of MT1-MMP and MMP-2.

REGISTRY NUMBERS: 81669-70-7: METALLOPROTEINASE
DESCRIPTORS:
MAJOR CONCEPTS: Cardiovascular System (Transport and Circulation); Cell Biology; Enzymology (Biochemistry and Molecular Biophysics)
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: rat (Muridae)
ORGANISMS: PARTS ETC: microvascular endothelial cell--circulatory system
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: matrix metalloproteinase-2 gene--expression; matrix metalloproteinase-2--activation; membrane-type 1 matrix metalloproteinase gene--expression; membrane-type 1 matrix metalloproteinase--induction; *type I collagen*
MISCELLANEOUS TERMS: *angiogenesis*; three-dimensional type I collagen lattice
CONCEPT CODES:
02506 Cytology and Cytochemistry-Animal
03506 Genetics and Cytogenetics-Animal
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10808 Enzymes-Physiological Studies
14504 Cardiovascular System-Physiology and Biochemistry
BIOSYSTEMATIC CODES:
86375 Muridae

7/5/10 (Item 5 from file: 55)
DIALOG(R)File 55:Biosis Previews(R)

10530456 BIOSIS NO.: 199699151601
Involvement of the transcription factor NF-kappa-B in tubular morphogenesis of human microvascular endothelial cells by oxidative stress.
AUTHOR: Shono Tadahisa; Ono Mayumi; Izumi Hiroto; Jimi Sei-Ichiro; Matsushima Kouji; Okamoto Takashi; Kohno Kimitoshi; Kuwano Michihiko(a)
AUTHOR ADDRESS: (a)Dep. Biochemistry, Kyushu Univ. Sch. Med., Maidashi, Fukuoka 812-82**Japan
JOURNAL: Molecular and Cellular Biology 16 (8):p4231-4239 1996
ISSN: 0270-7306
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Oxygen radicals are induced under various pathologic conditions

associated with neovascularization. Oxygen radicals modulate *angiogenesis* in cultured human microvascular endothelial cells by an unknown mechanism. Treatment of human microvascular endothelial cells for 15 min with 0.1 to 0.5 mM hydrogen peroxide (H-2O-2) or 100 U of tumor necrosis factor alpha per ml induced tubular morphogenesis in type I collagen gels. Gel shift assays with nuclear extracts demonstrated that H-2O-2 increases the binding activities of two transcription factors, NF-kappa-B and AP-1, but not of Sp1. Tumor necrosis factor alpha increased the binding activities of all three factors. A supershift assay with specific antibodies against JunB, JunD, and c-jun (Jun family) showed that the antibody against c-jun supershifted the AP-1 complex after H-2O-2 treatment. Coadministration of the antisense sequence of NF-KB *inhibited* H-2O-2-dependent tubular morphogenesis, and the antisense c-Jun oligonucleotide caused partial *inhibition*. The angiogenic factor responsible for H-2O-2-induced tubular morphogenesis was examined. Cellular mRNA levels of vascular endothelial growth factor and interleukin-8 (IL-8), but not those of transforming growth factor et, were increased after treatment with 0.5 mM H-2O-2. Coadministration of anti-IL-8 antibody *inhibited* tubular morphogenesis enhanced by H-2O-2, and IL-8 itself also enhanced the formation of tube-like structures. Treatment with antisense NF-KB oligonucleotide completely blocked H-2O-2-dependent IL-8 production by endothelial cells. The tubular morphogenesis of vascular endothelial cells after treatment with oxidative stimuli and its possible association with NF-kappa-B and IL-8, is examined.

REGISTRY NUMBERS: 7722-84-1: HYDROGEN PEROXIDE
DESCRIPTORS:
  MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Cardiovascular System (Transport and Circulation); Development; Endocrine System (Chemical Coordination and Homeostasis); Genetics; Molecular Genetics (Biochemistry and Molecular Biophysics)
  BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
  ORGANISMS: Hominidae (Hominidae)
  BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; humans; mammals; primates; vertebrates
  CHEMICALS & BIOCHEMICALS: HYDROGEN PEROXIDE
  MISCELLANEOUS TERMS: HYDROGEN PEROXIDE; INTERLEUKIN-8; MESSENGER RNA; NEOVASCULARIZATION; TUMOR NECROSIS FACTOR-ALPHA; *TYPE I COLLAGEN*; VASCULAR ENDOTHELIAL GROWTH FACTOR
CONCEPT CODES:
  03508 Genetics and Cytogenetics-Human
  10012 Biochemistry-Gases (1970-)
  10300 Replication, Transcription, Translation
  14504 Cardiovascular System-Physiology and Biochemistry
  15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and Reticuloendothelial System
  17002 Endocrine System-General
  25508 Developmental Biology-Embryology-Morphogenesis, General
  02508 Cytology and Cytochemistry-Human
  10060 Biochemical Studies-General
  10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
  10064 Biochemical Studies-Proteins, Peptides and Amino Acids
  10506 Biophysics-Molecular Properties and Macromolecules
BIOSYSTEMATIC CODES:
  86215 Hominidae
?e au=brooks, peter c.

Ref	Items	Index-term
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E2	6	AU=BROOKS, PETER C
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E4	3	AU=BROOKS, PETER H
E5	2	AU=BROOKS, PHILIP J
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E7	4	AU=BROOKS, R
E8	1	AU=BROOKS, R.

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E10       1  AU=BROOKS, R. B.
E11       1  AU=BROOKS, R. C
E12       1  AU=BROOKS, R. C.

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?s e2
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11/5/1 (Item 1 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index

1383766 H.W. WILSON RECORD NUMBER: BBAI98012778

Disruption of angiogenesis by PEX, a noncatalytic metalloproteinase fragment with integrin binding activity

Brooks, Peter C
Silletti, Steve; von Schalscha, Tami L
Cell v. 92 (Feb. 6 1998) p. 391-400
DOCUMENT TYPE: Feature Article ISSN: 0092-8674 LANGUAGE: English
RECORD STATUS: Corrected or revised record

DESCRIPTORS: Integrins; Angiogenesis inhibitors; Metalloproteinases

11/5/2 (Item 2 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index

1376694 H.W. WILSON RECORD NUMBER: BBAI00060824

Contact with fibrillar collagen inhibits melanoma cell proliferation by up-regulating p27KIP1

Henriet, Patrick
Zhong, Zhi-Duan; *Brooks, Peter C*
Proceedings of the National Academy of Sciences of the United States of America v. 97 no18 (Aug. 29 2000) p. 10026-31
DOCUMENT TYPE: Feature Article ISSN: 0027-8424 LANGUAGE: English
RECORD STATUS: Corrected or revised record

DESCRIPTORS: Collagen; Melanoma; Cell proliferation--Inhibition

11/5/3 (Item 3 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index

1300676 H.W. WILSON RECORD NUMBER: BBAI95002655

Integrin avb3 antagonists promote tumor regression by inducing apoptosis of angiogenic blood vessels

Brooks, Peter C
Montgomery, Anthony M. P; Rosenfeld, Mauricio
Cell v. 79 (Dec. 30 1994) p. 1157-64
DOCUMENT TYPE: Feature Article ISSN: 0092-8674 LANGUAGE: English
RECORD STATUS: Corrected or revised record

DESCRIPTORS: Angiogenesis; Integrins; Tumor cells--Blood supply

11/5/4 (Item 4 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0813571 H.W. WILSON RECORD NUMBER: BBAI96028591
Localization of matrix metalloproteinase MMP-2 to the surface of invasive cells by interaction with integrin avb3
Brooks, Peter C
Stromblad, Staffan; Sanders, Luraynne C
Cell v. 85 (May 31 '96) p. 683-93
DOCUMENT TYPE: Feature Article ISSN: 0092-8674 LANGUAGE: English
RECORD STATUS: Corrected or revised record

DESCRIPTORS: Gelatinase A; Integrins

11/5/5 (Item 5 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0712931 H.W. WILSON RECORD NUMBER: BBAI95030391
Requirement of the NPXY motif in the integrin b3 subunit cytoplasmic tail for melanoma cell migration in vitro and in vivo
Filardo, Edward J
Brooks, Peter C; Deming, Sandra L
The Journal of Cell Biology v. 130 no2 (July '95) p. 441-50
DOCUMENT TYPE: Feature Article ISSN: 0021-9525 LANGUAGE: English
RECORD STATUS: Corrected or revised record

DESCRIPTORS: Integrins; Melanoma; Tumor cell migration

11/5/6 (Item 6 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0446490 H.W. WILSON RECORD NUMBER: BBAI93045451
Subtractive immunization yields monoclonal antibodies that specifically inhibit metastasis
Brooks, Peter C
Lin, Jian-Min; French, Deborah L
The Journal of Cell Biology v. 122 no6 (Sept. '93) p. 1351-9
DOCUMENT TYPE: Feature Article ISSN: 0021-9525 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Metastasis; Vaccines and vaccination; Monoclonal antibodies
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S4	2800	TYPE I COLLAGEN
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S7	10	S6 AND INHIBIT?
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S9	1	RD (unique items)
S10	6	AU="BROOKS, PETER C"
S11	6	RD (unique items)

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E9        19  AU=PETITCOLAS J.
E10        8  AU=PETITCOLAS PIERRE
E11        2  AU=PETITCOLAS V
E12        4  AU=PETITCOLAS VERONIQUE

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13/5/1 (Item 1 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index
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1453782 H.W. WILSON RECORD NUMBER: BBAI01052325

Proteolytic exposure of a cryptic site within collage type IV is required for angiogenesis and tumor growth in vivo

Xu, Jingsong
Rodriguez, Dorothy; *Petitclerc, Eric*
The Journal of Cell Biology v. 154 no5 (Sept. 3 2001) p. 1069-79
DOCUMENT TYPE: Feature Article ISSN: 0021-9525 LANGUAGE: English
RECORD STATUS: Corrected or revised record
In: The Journal of Cell Biology v. 154 no5 (Sept. 3 2001) p. 1069-79; Correction. v155 no5 p859 N 26 2001.

DESCRIPTORS: Gelatinase A; Angiogenesis; Proteolysis

13/5/2 (Item 2 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index
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1414414 H.W. WILSON RECORD NUMBER: BBAI01050691

Plasminogen activator inhibitor-1 regulates tumor growth and angiogenesis

McMahon, Grainne A
Petitclerc, Eric; Stefansson, Steingrimur
The Journal of Biological Chemistry v. 276 no36 (Sept. 7 2001) p. 33964-8
DOCUMENT TYPE: Feature Article ISSN: 0021-9258 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Plasminogen activator inhibitors; Angiogenesis inhibitors

13/5/3 (Item 3 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index
(c) 2002 The HW Wilson Co. All rts. reserv.

1357200 H.W. WILSON RECORD NUMBER: BBAI01016615

Inhibition of angiogenesis in vivo by plasminogen activator inhibitor-1

Stefansson, Steingrimur
Petitclerc, Eric; Wong, Michael K. K

The Journal of Biological Chemistry v. 276 no11 (Mar. 16 2001) p. 8135-41
DOCUMENT TYPE: Feature Article ISSN: 0021-9258 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Angiogenesis inhibitors; Plasminogen activator inhibitors

13/5/4 (Item 4 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

1297247 H.W. WILSON RECORD NUMBER: BBAI00024786
New functions for non-collagenous domains of human collagen type IV. Novel integrin ligands inhibiting angiogenesis and tumor growth in vivo
Petitclerc, Eric
Boutaud, Ariel; Prestayko, Archie
The Journal of Biological Chemistry v. 275 no11 (Mar. 17 2000) p. 8051-61
DOCUMENT TYPE: Feature Article ISSN: 0021-9258 LANGUAGE: English
RECORD STATUS: Corrected or revised record

DESCRIPTORS: Collagen; Integrins; Tumor cells--Blood supply; Angiogenesis inhibitors

13/5/5 (Item 5 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0683377 H.W. WILSON RECORD NUMBER: BBAI97015381
Mechanisms of action of antimalarials in inflammation. Induction of apoptosis in human endothelial cells
Potvin, Frederic
Petitclerc, Eric; Marceau, Francois
Journal of Immunology v. 158 (Feb. 15 '97) p. 1872-9
DOCUMENT TYPE: Feature Article ISSN: 0022-1767 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Apoptosis--Man; Antimalarials; Inflammation--Man

13/5/6 (Item 6 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0578868 H.W. WILSON RECORD NUMBER: BBAI96021621
Pathologic leukocyte infiltration of the rabbit aorta confers a vasomotor effect to chemotactic peptides through cyclooxygenase-derived metabolites
Petitclerc, Eric
Levesque, Luc; Grose, John H
Journal of Immunology v. 156 (May 1 '96) p. 3426-34
DOCUMENT TYPE: Feature Article ISSN: 0022-1767 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Leukocytes; Vasomotor system--Physiology; Metabolites; Chemotactic factors
?e au=xu, jingsong

Ref	Items	Index-term
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E4	3	AU=XU, JINGWU
E5	1	AU=XU, JINGYA
E6	4	AU=XU, JINGYUAN
E7	2	AU=XU, JINGZHI
E8	1	AU=XU, JINHUA
E9	1	AU=XU, JINLIN
E10	1	AU=XU, JINLING
E11	1	AU=XU, JINMING

E12 1 AU=XU, JINQUAN

Enter P or PAGE for more

?s e3

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>>> or undefined in one or more files.

S14 8 AU="XU, JINGSONG"

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S15 8 RD (unique items)

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15/5/1 (Item 1 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index

1476719 H.W. WILSON RECORD NUMBER: BBAI96029523

Graded activation of fibroblast growth factor receptor 3 by mutations causing achondroplasia and thanatophoric dysplasia

Naski, Michael C

Wang, Qing; *Xu, Jingsong*

Nature Genetics v. 13 (June 1996) p. 233-7

DOCUMENT TYPE: Feature Article ISSN: 1061-4036 LANGUAGE: English

RECORD STATUS: Corrected or revised record

DESCRIPTORS: Fibroblast growth factor receptors--Man; Achondroplasia--Man ; Mutation (Biology)--Man

15/5/2 (Item 2 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index

1453782 H.W. WILSON RECORD NUMBER: BBAI01052325

Proteolytic exposure of a cryptic site within collage type IV is required for angiogenesis and tumor growth in vivo

Xu, Jingsong

Rodriguez, Dorothy; Petitclerc, Eric

The Journal of Cell Biology v. 154 no5 (Sept. 3 2001) p. 1069-79

DOCUMENT TYPE: Feature Article ISSN: 0021-9525 LANGUAGE: English

RECORD STATUS: Corrected or revised record

In: The Journal of Cell Biology v. 154 no5 (Sept. 3 2001) p. 1069-79; Correction. v155 no5 p859 N 26 2001.

DESCRIPTORS: Gelatinase A; Angiogenesis; Proteolysis

15/5/3 (Item 3 from file: 143)

DIALOG(R)File 143:Biol. & Agric. Index

1223346 H.W. WILSON RECORD NUMBER: BBAI00034250

Temporal and spatial gradients of Fgf8 and Fgf17 regulate proliferation and differentiation of midline cerebellar structures

Xu, Jingsong

Liu, Zhonghao; Ornitz, David M

Development (Cambridge, England) v. 127 no9 (May 2000) p. 1833-43

DOCUMENT TYPE: Feature Article ISSN: 0950-1991 LANGUAGE: English

RECORD STATUS: New record

DESCRIPTORS: Organogenesis--Cerebellum; Developmental genetics; Neurogenesis; Fibroblast growth factor

15/5/4 (Item 4 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0879363 H.W. WILSON RECORD NUMBER: BBAI98046483
Identification of the cytoplasmic regions of fibroblast growth factor (FGF) receptor 1 which play important roles in induction of neurite outgrowth in PC12 cells by FGF-1
Lin, Hsien-Yi
Xu, Jingsong; Ischenko, Irene
Molecular and Cellular Biology v. 18 no7 (July '98) p. 3762-70
DOCUMENT TYPE: Feature Article ISSN: 0270-7306 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Fibroblast growth factor receptors; Neurogenesis

15/5/5 (Item 5 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0801407 H.W. WILSON RECORD NUMBER: BBAI98004907
Transplanted oligodendrocyte progenitor cells expressing a dominant-negative FGF receptor transgene fail to migrate in vivo
Osterhout, Donna J
Ebner, Sylvie; *Xu, Jingsong*
Journal of Neuroscience v. 17 (Dec. 1 '97) p. 9122-32
DOCUMENT TYPE: Feature Article ISSN: 0270-6474 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Fibroblast growth factor receptors; Neuroglia; Neurogenesis; Cell migration

15/5/6 (Item 6 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0609643 H.W. WILSON RECORD NUMBER: BBAI96039623
The fibroblast growth factor receptor-1 is necessary for the induction of neurite outgrowth in PC12 cells by aFGF
Lin, Hsien-Yi
Xu, Jingsong; Ornitz, David M
Journal of Neuroscience v. 16 (Aug. 1 '96) p. 4579-87
DOCUMENT TYPE: Feature Article ISSN: 0270-6474 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Differentiation (Biology); Fibroblast growth factor receptors

15/5/7 (Item 7 from file: 143)
DIALOG(R)File 143:Biol. & Agric. Index

0601977 H.W. WILSON RECORD NUMBER: BBAI96034385
Receptor specificity of the fibroblast growth factor family
Ornitz, David M
Xu, Jingsong; Colvin, Jennifer S
The Journal of Biological Chemistry v. 271 (June 21 '96) p. 15292-7
DOCUMENT TYPE: Feature Article ISSN: 0021-9258 LANGUAGE: English
RECORD STATUS: New record

DESCRIPTORS: Fibroblast growth factor receptors

15/5/8 (Item 8 from file: 143)

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DIALOG(R)File 143:Biol. & Agric. Index
(c) 2002 The HW Wilson Co. All rts. reserv.

0559124    H.W. WILSON RECORD NUMBER: BBAI96001844
FGF-8 isoforms activate receptor splice forms that are expressed in
  mesenchymal regions of mouse development
 MacArthur, Craig A
 Lawshe, Avril; *Xu, Jingsong*
 Development (Cambridge, England) v. 121 (Nov. '95) p. 3603-13
 DOCUMENT TYPE:  Feature Article   ISSN: 0950-1991  LANGUAGE:  English
 RECORD STATUS: New record

 DESCRIPTORS:  Pattern (Biology); Mesenchyme; Developmental genetics;
  Fibroblast growth factor
?ds

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S1     390127   COLLAGEN
S2     462795   COLLAGEN?
S3        262   TYPE I AND S2
S4       2800   TYPE I COLLAGEN
S5          0   S4 AND INHIBIT? ANGIOGENESIS
S6         40   S4 AND ANGIOGENESIS
S7         10   S6 AND INHIBIT?
S8          2   S7 AND ANTIBOD?
S9          1   RD (unique items)
S10         6   AU="BROOKS, PETER C"
S11         6   RD (unique items)
S12         6   AU="PETITCLERC, ERIC"
S13         6   RD (unique items)
S14         8   AU="XU, JINGSONG"
S15         8   RD (unique items)
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         2551850  ANTIBOD?
     S16     254  S4 AND ANTIBOD?
?s s16 and antagonist?
             254  S16
         1310316  ANTAGONIST?
     S17       0  S16 AND ANTAGONIST?
?s s16 and inhibit?
Processed  10 of  14 files ...
Processing
Completed processing all files
             254  S16
         4897395  INHIBIT?
     S18     102  S16 AND INHIBIT?
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>>>Duplicate detection is not supported for File 340.
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Set     Items   Description
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S4       2800   TYPE I COLLAGEN
S5          0   S4 AND INHIBIT? ANGIOGENESIS
S6         40   S4 AND ANGIOGENESIS
S7         10   S6 AND INHIBIT?
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S8          2   S7 AND ANTIBOD?
S9          1   RD (unique items)
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S11         6   RD (unique items)
S12         6   AU="PETITCLERC, ERIC"
S13         6   RD (unique items)
S14         8   AU="XU, JINGSONG"
S15         8   RD (unique items)
S16       254   S4 AND ANTIBOD?
S17         0   S16 AND ANTAGONIST?
S18       102   S16 AND INHIBIT?
S19        51   RD (unique items)
?s s19 and angiogenesis
             51  S19
          97768  ANGIOGENESIS
     S20      1  S19 AND ANGIOGENESIS
?t s20/5/all
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20/5/1 (Item 1 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

10530456 BIOSIS NO.: 199699151601

Involvement of the transcription factor NF-kappa-B in tubular morphogenesis of human microvascular endothelial cells by oxidative stress.

AUTHOR: Shono Tadahisa; Ono Mayumi; Izumi Hiroto; Jimi Sei-Ichiro; Matsushima Kouji; Okamoto Takashi; Kohno Kimitoshi; Kuwano Michihiko(a)

AUTHOR ADDRESS: (a)Dep. Biochemistry, Kyushu Univ. Sch. Med., Maidashi, Fukuoka 812-82**Japan

JOURNAL: Molecular and Cellular Biology 16 (8):p4231-4239 1996

ISSN: 0270-7306

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Oxygen radicals are induced under various pathologic conditions associated with neovascularization. Oxygen radicals modulate *angiogenesis* in cultured human microvascular endothelial cells by an unknown mechanism. Treatment of human microvascular endothelial cells for 15 min with 0.1 to 0.5 mM hydrogen peroxide (H-2O-2) or 100 U of tumor necrosis factor alpha per ml induced tubular morphogenesis in type I collagen gels. Gel shift assays with nuclear extracts demonstrated that H-2O-2 increases the binding activities of two transcription factors, NF-kappa-B and AP-1, but not of Sp1. Tumor necrosis factor alpha increased the binding activities of all three factors. A supershift assay with specific *antibodies* against JunB, JunD, and c-jun (Jun family) showed that the *antibody* against c-jun supershifted the AP-1 complex after H-2O-2 treatment. Coadministration of the antisense sequence of NF-KB *inhibited* H-2O-2-dependent tubular morphogenesis, and the antisense c-Jun oligonucleotide caused partial *inhibition*. The angiogenic factor responsible for H-2O-2-induced tubular morphogenesis was examined. Cellular mRNA levels of vascular endothelial growth factor and interleukin-8 (IL-8), but not those of transforming growth factor et, were increased after treatment with 0.5 mM H-2O-2. Coadministration of anti-IL-8 *antibody* *inhibited* tubular morphogenesis enhanced by H-2O-2, and IL-8 itself also enhanced the formation of tube-like structures. Treatment with antisense NF-KB oligonucleotide completely blocked H-2O-2-dependent IL-8 production by endothelial cells. The tubular morphogenesis of vascular endothelial cells after treatment with oxidative stimuli and its possible association with NF-kappa-B and IL-8, is examined.

REGISTRY NUMBERS: 7722-84-1: HYDROGEN PEROXIDE

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Cardiovascular System (Transport and Circulation); Development; Endocrine System (Chemical Coordination and Homeostasis); Genetics; Molecular Genetics (Biochemistry and Molecular Biophysics)

BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: Hominidae (Hominidae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; humans; mammals; primates; vertebrates
CHEMICALS & BIOCHEMICALS: HYDROGEN PEROXIDE
MISCELLANEOUS TERMS: HYDROGEN PEROXIDE; INTERLEUKIN-8; MESSENGER RNA; NEOVASCULARIZATION; TUMOR NECROSIS FACTOR-ALPHA; *TYPE I COLLAGEN*; VASCULAR ENDOTHELIAL GROWTH FACTOR
CONCEPT CODES:
03508 Genetics and Cytogenetics-Human
10012 Biochemistry-Gases (1970-)
10300 Replication, Transcription, Translation
14504 Cardiovascular System-Physiology and Biochemistry
15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and Reticuloendothelial System
17002 Endocrine System-General
25508 Developmental Biology-Embryology-Morphogenesis, General
02508 Cytology and Cytochemistry-Human
10060 Biochemical Studies-General
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10506 Biophysics-Molecular Properties and Macromolecules
BIOSYSTEMATIC CODES:
86215 Hominidae

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?ds

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S7         10   S6 AND INHIBIT?
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S9          1   RD (unique items)
S10         6   AU="BROOKS, PETER C"
S11         6   RD (unique items)
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S13         6   RD (unique items)
S14         8   AU="XU, JINGSONG"
S15         8   RD (unique items)
S16       254   S4 AND ANTIBOD?
S17         0   S16 AND ANTAGONIST?
S18       102   S16 AND INHIBIT?
S19        51   RD (unique items)
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              51  S19
         3038037  CANCER
     S21       4  S19 AND CANCER
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?t s22/5/all

 22/5/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
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13397829   BIOSIS NO.: 200200026650
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Type I collagen-mediated proliferation of PC3 prostate carcinoma cell line: Implications for enhanced growth in the bone microenvironment.

AUTHOR: Kiefer J A; Farach-Carson M C(a)
AUTHOR ADDRESS: (a)University of Delaware, 304 Wolf Hall, Newark, DE, 19716 **USA E-Mail: farachca@udel.edu
JOURNAL: Matrix Biology 20 (7):p429-437 November, 2001
MEDIUM: print
ISSN: 0945-053X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Prostate *cancer* is the second leading cause of male *cancer* -related deaths in the United States. Interestingly, prostate *cancer* preferentially metastasizes to bone. Once in the bone microenvironment, advanced prostate *cancer* becomes highly resistant to therapeutic modalities. Several factors, such as, extracelluar matrix components, have been implicated in the spread and propagation of prostatic carcinoma. The prostate cell line, PC3, adhere and spread on collagen I to a greater degree than on fibronectin (FN) or poly-L-lysine (PLL). Flow cytometry analysis reveals the presence of the alpha1, alpha2 and alpha3 collagen binding integrin subunits. *Antibody* function blocking studies reveal that PC3 cells can utilize alpha2beta1 and alpha3beta1 integrins to adhere to collagen I. Cells plated on collagen I exhibit increased rates of proliferation over cells plated on FN or tissue culture plastic. Additionally, cells plated on collagen I show increased expression of cyclin D1, a molecule associated with progression through G1 phase of the cell cycle. *Inhibitor* studies point to a role for phosphatidylinositol 3-kinase (PI3K), map kinase (MAPK) and p70 S6 kinase in collagen I-mediated PC3 cell proliferation and cyclin D1 expression. Type I collagen may facilitate the colonization and growth of metastatic prostate tumor cells in the bone microenvironment.

REGISTRY NUMBERS: 142243-02-5: MITOGEN-ACTIVATED PROTEIN KINASE; 115926-52-8: PHOSPHATIDYLINOSITOL 3-KINASE; 25104-18-1Q: POLY-L-LYSINE; 38000-06-5Q: POLY-L-LYSINE
DESCRIPTORS:
MAJOR CONCEPTS: Enzymology (Biochemistry and Molecular Biophysics); Reproductive System (Reproduction); Skeletal System (Movement and Support); Tumor Biology
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: PC3 cell line (Hominidae)--human prostate carcinoma cells
ORGANISMS: PARTS ETC: bone--skeletal system
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Humans; Mammals; Primates; Vertebrates
DISEASES: bone metastasis--bone disease, neoplastic disease; prostate *cancer*--neoplastic disease, reproductive system disease/male, urologic disease
CHEMICALS & BIOCHEMICALS: alpha-1-collagen binding integrin subunit; alpha-2-collagen binding integrin subunit; alpha-3-collagen binding integrin subunit; cyclin D1; extracellular matrix components; fibronectin; mitogen-activated protein kinase {MAPK}; p70 S6 kinase; phosphatidylinositol 3-kinase {PI3K}; poly-L-lysine; *type I collagen*
METHODS & EQUIPMENT: *antibody* function blocking study--analytical method; flow cytometry--cytological method, cytophotometry
MISCELLANEOUS TERMS: cell proliferation
ALTERNATE INDEXING: Bone Neoplasms (MeSH); Prostatic Neoplasms (MeSH)
CONCEPT CODES:
02508 Cytology and Cytochemistry-Human
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10802 Enzymes-General and Comparative Studies; Coenzymes
15506 Urinary System and External Secretions-Pathology
16504 Reproductive System-Physiology and Biochemistry
16506 Reproductive System-Pathology
18004 Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and Biochemistry
18006 Bones, Joints, Fasciae, Connective and Adipose Tissue-Pathology
24004 Neoplasms and Neoplastic Agents-Pathology; Clinical Aspects;

Systemic Effects
BIOSYSTEMATIC CODES:
86215 Hominidae

22/5/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

13207759 BIOSIS NO.: 200100414908
Functional interplay between type I collagen and cell surface matrix metalloproteinase activity.
AUTHOR: Ellerbroek Shawn M; Wu Yi I; Overall Christopher M; Stack M Sharon (a)
AUTHOR ADDRESS: (a)Dept. of Cell and Molecular Biology, Northwestern University Medical School, 303 E. Chicago Ave., Tarry 8-715, Chicago, IL, 60611: mss130@northwestern.edu**USA
JOURNAL: Journal of Biological Chemistry 276 (27):p24833-24842 July 6, 2001
MEDIUM: print
ISSN: 0021-9258
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: Type I collagen stimulation of pro-matrix metalloproteinase (pro-MMP)-2 activation by ovarian *cancer* cells involves beta1 integrin receptor clustering; however, the specific cellular and biochemical events that accompany MMP processing are not well characterized. Collagenolysis is not required for stimulation of pro-MMP-2 activation, and denatured collagen does not elicit an MMP-2 activation response. Similarly, DOV13 cells bind to intact collagen utilizing both alpha2beta1 and alpha3beta1 integrins but interact poorly with collagenase-treated or thermally denatured collagen. *Antibody*-induced clustering of alpha3beta1 strongly promotes activation of pro-MMP-2, whereas alpha2beta1 integrin clustering has only marginal effects. Membrane-type 1 (MT1)-MMP is present on the DOV13 cell surface as both an active 55-kDa TIMP-2-binding species and a stable catalytically inactive 43-kDa form. Integrin clustering stimulates cell surface expression of MT1-MMP and co-localization of the proteinase to aggregated integrin complexes. Furthermore, cell surface proteolysis of the 55-kDa MT1-MMP species occurs in the absence of active MMP-2, suggesting MT1-MMP autolysis. Cellular invasion of type I collagen matrices requires collagenase activity, is blocked by tissue *inhibitor* of metalloproteinases-2 (TIMP-2) and collagenase-resistant collagen, is unaffected by TIMP-1, and is accompanied by pro-MMP-2 activation. Together, these data indicate that integrin stimulation of MT1-MMP activity is a rate-limiting step for type I collagen invasion and provide a mechanism by which this activity can be down-regulated following collagen clearance.

REGISTRY NUMBERS: 9001-12-1: COLLAGENASE; 146480-35-5: MATRIX METALLOPROTEINASE-2; 146480-35-5: MMP-2; 161384-17-4: MEMBRANE-TYPE 1-MATRIX METALLOPROTEINASE; 161384-17-4: MT1-MMP; 148969-98-6: PRO-MATRIX METALLOPROTEINASE-2; 148969-98-6: PRO-MMP-2; 140208-24-8: TIMP-1; 124861-55-8: TIMP-2
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Metabolism
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: DOV13 cell line (Hominidae)--ovarian *cancer* cells
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Humans; Mammals; Primates; Vertebrates
CHEMICALS & BIOCHEMICALS: alpha-2beta-1 integrin; alpha-3beta-1 integrin; collagenase; matrix metalloproteinase-2 {MMP-2}; membrane-type 1-matrix metalloproteinase {MT1-MMP}--cell surface expression, cell surface proteolysis; pro-matrix metalloproteinase-2 {pro-MMP-2}--activation; tissue *inhibitor* of metalloproteinases-1 {TIMP-1}; tissue *inhibitor* of metalloproteinases-2 {TIMP-2}; *type I

collagen*
MISCELLANEOUS TERMS: collagenolysis; functional interplay
CONCEPT CODES:
02506 Cytology and Cytochemistry-Animal
02508 Cytology and Cytochemistry-Human
10060 Biochemical Studies-General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10802 Enzymes-General and Comparative Studies; Coenzymes
13002 Metabolism-General Metabolism; Metabolic Pathways
BIOSYSTEMATIC CODES:
86215 Hominidae

22/5/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10838112 BIOSIS NO.: 199799459257
Transforming growth factor beta upregulates the integrin-mediated adhesion of human prostatic carcinoma cells to type I collagen.
AUTHOR: Kostenuik Paul J; Singh Gurmit; Orr F William(a)
AUTHOR ADDRESS: (a)Dep. Pathol., Univ. Manitoba Health Sci. Cent., 820 Sherbrook St., Winnipeg, MB R3A 1R9**Canada
JOURNAL: Clinical & Experimental Metastasis 15 (1):p41-52 1997
ISSN: 0262-0898
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Prostate *cancer* frequently metastasizes to bone, and we propose that this process may be facilitated by the adhesion of metastatic cells to bone-derived type I collagen. We examined collagen receptor function and regulation in osteotropic PC-3 human prostatic carcinoma cells. PC-3 cell adhesion to immobilized human type I collagen was promoted by Mn-2+ and Mg-2+ ions and was RGD-independent. *Antibodies* directed against beta-1 or alpha-2 integrin subunits *inhibited* adhesion to collagen by 90% and 53%, respectively, suggesting involvement of the alpha-2-beta-1 receptor. Anti-alpha-1 or anti-alpha-3 *antibodies* had no effect on adhesion. Flow cytometry and immunoprecipitation of (35S)methionine-labeled cells demonstrated that alpha-2-beta-1 was the major collagen receptor expressed by PC-3 cells. The pretreatment of PC-3 cells with transforming growth factor-beta-1 (TGF-beta-1), a major bone-derived growth factor, caused a rapid (2 h) 2-fold increase in the de novo synthesis of alpha-2 and beta-1 integrin subunits, and also increased by 2- to 3-fold the adhesion and spreading of PC-3 cells on collagen. We conclude that alpha-2-beta-1 is the major collagen receptor employed by PC-3 cells, and that alpha-2-beta-1 upregulation by TGF-beta is associated with an increased adhesion and spreading on collagen. The data suggest that exposure of metastatic PC-3 cells to the high levels of TGF-beta in bone may promote their ability to adhere to bone-derived collagen, which may thereby facilitate the localization of metastatic cells in the skeleton.

REGISTRY NUMBERS: 153-87-7Q: INTEGRIN; 60791-49-3Q: INTEGRIN
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Endocrine System (Chemical Coordination and Homeostasis); Membranes (Cell Biology); Oncology (Human Medicine, Medical Sciences); Reproductive System (Reproduction); Skeletal System (Movement and Support); Urology (Human Medicine, Medical Sciences)
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: PC-3 (Hominidae)--cell line
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; humans; mammals; primates; vertebrates
CHEMICALS & BIOCHEMICALS: INTEGRIN
MISCELLANEOUS TERMS: Research Article; BIOCHEMISTRY AND BIOPHYSICS; BONE; BONE METASTASIS; HUMAN PROSTATIC CARCINOMA CELLS; INTEGRIN; INTEGRIN-MEDIATED ADHESION; NEOPLASTIC DISEASE; PROSTATE *CANCER*; PROSTATIC CARCINOMA CELLS; REPRODUCTIVE SYSTEM DISEASE/MALE; SKELETAL

SYSTEM; TRANSFORMING GROWTH FACTOR-BETA; TUMOR BIOLOGY; *TYPE I COLLAGEN*; UROLOGIC DISEASE
CONCEPT CODES:
02508 Cytology and Cytochemistry-Human
10506 Biophysics-Molecular Properties and Macromolecules
10508 Biophysics-Membrane Phenomena
15506 Urinary System and External Secretions-Pathology
16506 Reproductive System-Pathology
17002 Endocrine System-General
18006 Bones, Joints, Fasciae, Connective and Adipose Tissue-Pathology
24004 Neoplasms and Neoplastic Agents-Pathology; Clinical Aspects; Systemic Effects
24006 Neoplasms and Neoplastic Agents-Biochemistry
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
BIOSYSTEMATIC CODES:
86215 Hominidae

22/5/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10565995 BIOSIS NO.: 199699187140
Evidence for preferential adhesion of ovarian epithelial carcinoma cells to type I collagen mediated by the alpha-2-beta-1 integrin.
AUTHOR: Moser Tammy L; Pizzo Salvatore V; Bafetti Lisa M; Fishman David A; Stack M Sharon(a)
AUTHOR ADDRESS: (a)Dep. Obstetrics Gynecol., Northwestern Univ. Med. Sch., 303 E. Chicago Ave., Tarry 4-755, Chicag**USA
JOURNAL: International Journal of Cancer 67 (5):p695-701 1996
ISSN: 0020-7136
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Epithelial ovarian carcinoma, the leading cause of gynecologic *cancer* death, is characterized by widespread intra-abdominal metastases mediated primarily by surface shedding of tumor cells and peritoneal implantation. Whereas hematogenous metastasis is known to involve cellular adhesion, extracellular matrix proteolysis and cell migration, the role of these processes in the intraperitoneal dissemination of ovarian *cancer* remains unclear. To analyze further the role of adhesion and proteolysis in ovarian carcinoma dissemination, we have characterized the adhesive profiles of 4 primary cultures of ovarian carcinoma cells and 5 ovarian carcinoma cell lines. Our data demonstrate preferential adhesion of ovarian carcinoma cells to interstitial type I collagen. Analysis of adhesion molecule expression demonstrated the presence of the alpha-2 and beta-1 integrin subunits by cell surface ELISA, immunoprecipitation and immunohistochemistry. Furthermore, *antibodies* directed against the alpha-2 and beta-1 subunits *inhibited* adhesion of ovarian carcinoma cells to type I collagen by 56% and 95%, respectively. Plasminogen activator and matrix metalloproteinase production by adherent cells was not altered as a consequence of adhesion to individual extracellular matrix proteins; however, adhesion to an extracellular matrix comprised primarily of interstitial collagen increased plasminogen activator activity in 5 of 5 cell lines. Since the ovarian carcinoma micro-environment is rich in type I collagen, our data suggest that preferential adhesion to type I collagen followed by secretion of serine and metalloproteinases may represent a biochemical mechanism by which the intraperitoneal dissemination of ovarian carcinoma is mediated.

REGISTRY NUMBERS: 153-87-7Q: INTEGRIN; 60791-49-3Q: INTEGRIN; 9001-92-7: PROTEINASE
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Oncology (Human Medicine, Medical Sciences); Reproductive System (Reproduction)
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGANISMS: human (Hominidae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; humans; mammals; primates; vertebrates
CHEMICALS & BIOCHEMICALS: INTEGRIN; PROTEINASE
MISCELLANEOUS TERMS: ALPHA 2 BETA 1 INTEGRIN; DOV 13 CELL LINE; HUMAN OVARIAN CARCINOMA CELLS; HUMAN OVARIAN EPITHELIAL ASCITES CELLS; MATRIX-DEGRADING PROTEINASE; NEOPLASTIC DISEASE; OVARIAN CARCINOMA; OVARIAN CARCINOMA DISSEMINATION; OVARIAN METASTASES; OVCA 420 CELL LINE ; OVCA 429 CELL LINE; OVCA 432 CELL LINE; OVCA 433 CELL LINE; PERITONEAL; PRIMARY OVARIAN EPITHELIAL TUMOR; REPRODUCTIVE SYSTEM; REPRODUCTIVE SYSTEM DISEASE/FEMALE; SECRETION; TUMOR BIOLOGY; *TYPE I COLLAGEN*

CONCEPT CODES:

02508	Cytology and Cytochemistry-Human
10064	Biochemical Studies-Proteins, Peptides and Amino Acids
10068	Biochemical Studies-Carbohydrates
10506	Biophysics-Molecular Properties and Macromolecules
16506	Reproductive System-Pathology
24005	Neoplasms and Neoplastic Agents-Neoplastic Cell Lines
24006	Neoplasms and Neoplastic Agents-Biochemistry

BIOSYSTEMATIC CODES:

86215	Hominidae

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